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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Wen-Jen Ho

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EXAMINER

CARTER, TIA A

ART UNIT

PAPER NUMBER

2626

DATE MAILED: 09/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/735,074

Applicant(s)

HO, WEN-JEN

Examiner

Tia A Carter

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chui et al. (US. 6389160) in view of Hwang (US. 6173079).

Regarding claim 1, Chui et al. discloses an image processing device, suitable for displaying the static digital image on the image display device (Fig. 1) comprising:

A compressing device (PC-104-compresssion module 308) used to compress the static digital image using the wavelet transform to produce the first compressed image data file (Fig. 1, col. 4, lines 8-13 and Fig. 3, col. 6, lines 666-67 and line 1-6);

A memory device (104) used to store the compressed image data file (fig. 1, col. 4, lines 8-13)

A decompressing device (pc 105- decompression procedure 368) used to decompress the first compressed image data file to produce image data file, and display it on the image display device (image viewer-114) (fig. 1, col. 5, lines 28-33);

A processing device (106) used to calculate (fig. 1, col. 5, lines 10-14) and compare the storage space left in the memory device (fig. 3, col. 7, lines 10-33); Chui **do not disclose** the storage space used in the memory device and the size of the first compressed image data file, when the storage space left in the memory device is less than the size of the first compressed image data file, part of the compressed image data files stored in the memory device is eliminated to store the first compressed image data file, otherwise the first compressed image data file is directly stored in the memory device.

Hwang **disclose** the storage space used in the memory device and the size of the first compressed image data file, when the storage space left in the memory device is less than the size of the first compressed image data file, part of the compressed image data files stored in the memory device is eliminated to store the first compressed image data file, otherwise the first compressed image data file is directly stored in the memory device (fig. 1-3, col. 3, lines 3-11 and col. 4, lines 25-36).

It would have been obvious to one skilled in the art at the time of the invention to modify Chui et al. wherein a procedure step of eliminating a frequency block (sub band) after the wavelet transformation is implemented to allow more storage space availability this feature is very conventional providing a user with additional memory space as well as maintaining image quality furthermore the sub band which is eliminated/discarded is of less quality and contains details that is not sensitive to the average human eye.

Regarding claim 2 Chui et al. discloses the image-processing device as claimed in claim 1.

Chui et al. **do not disclose** wherein the size of the eliminated part of the image files is equally divided among the compressed image data files stored in the memory device.

Hwang **discloses** wherein the size of the eliminated part of the image files is equally divided among the compressed image data files stored in the memory device (fig. 3, col. 4, lines 25-37).

It would have been obvious to one skilled in the art at the time of the invention to modify Chui et al. wherein a procedure step of eliminating a frequency block (sub band) after the wavelet transformation is implemented to allow more storage space availability this feature is very conventional providing a user with additional memory space as well as maintaining image quality. Furthering having the blocks of equal size evenly displaces the image data, preventing discarding of valuable information.

Regarding claim 3 Chui et al. discloses the image-processing device as claimed in claim 2.

Chui et al. **do not discloses** wherein the eliminated part of the image data files is the end portion of the compressed image data files stored in the memory device.

Hwang et al. **discloses** wherein the eliminated part of the image data files is the end portion of the compressed image data files stored in the memory device (fig. 3, col. 4, lines 25-37 and lines 57-64).

It would have been obvious to one skilled in the art at the time of the invention to modify Chui et al. wherein a procedure step of eliminating a frequency block (sub band) after the wavelet transformation is implemented to allow more storage space availability this feature is very conventional providing a user with additional memory space as well as maintaining image quality furthermore the sub band which is eliminated/discarded is of less quality and contains details that is not sensitive to the average human eye.

Regarding claim 4, Chui et al. discloses a digital camera (fig. 1, col. 3, lines 66-67) comprising:

A static digital image-extracting device, used to extract static digital images and output (Fig. 1, col. 4, lines 1-4 and col. 5, lines 17-24).

A compressing device (PC-104-compresssion module 308) used to compress the static digital image using the wavelet transform to produce the first compressed image data file (Fig. 1, col. 4, lines 8-13 and Fig. 3, col. 6, lines 666-67 and line 1-6);

A memory card (108) used to store the compressed image data file (fig. 1, col. 4, lines 35-36)

A decompressing device (pc 105- decompression procedure 368) used to decompress the first compressed image data file to produce image data file (fig. 1, col. 5, lines 28-33), and

An image display it on the image display device (image viewer-114) (fig. 1, col. 5, lines 3-9);

A central processing unit (106) used to calculate (fig. 1, col. 5, lines 10-14) and compare the storage space left in the memory card, the storage space used and the first compressed image data file (fig. 3, col. 7, lines 10-33; fig. 1, col. 4, lines 35-36); Chui **do not disclose**, when the storage space left in the memory card is less than the size of the first compressed image data file, part of the compressed image data files stored in the memory card is eliminated to store the first compressed image data file, otherwise the first compressed image data file is directly stored in the memory card.

Hwang **disclose** the storage space used in the memory card and the size of the first compressed image data file, when the storage space left in the memory card is less than the size of the first compressed image data file, part of the compressed image data files stored in the memory card is eliminated to store the first compressed image data file, otherwise the first compressed image data file is directly stored in the memory card (fig. 1-3, col. 3, lines 3-11 and col. 4, lines 25-36).

It would have been obvious to one skilled in the art at the time of the invention to modify Chui et al. wherein a procedure step of eliminating a frequency block (sub band) after the wavelet transformation is implemented to allow more storage space availability this feature is very conventional providing a user with additional memory space as well as maintaining image quality furthermore the sub band which is eliminated/discarded is of less quality and contains details that is not sensitive to the average human eye.

Regarding claim 5 Chui et al. discloses the digital camera as claimed in claim 41.

Chui et al. **do not discloses** wherein the size of the eliminated part of the compressed image data files in the memory card is equally divided among the compressed image data files stored in the memory card.

Hwang **discloses** wherein the size of the eliminated part of the compressed image data files in the memory card is equally divided among the compressed image data files stored in the memory card (fig. 3, col. 4, lines 25-37).

It would have been obvious to one skilled in the art at the time of the invention to modify Chui et al. wherein a procedure step of eliminating a frequency block (sub band) after the wavelet transformation is implemented to allow more storage space availability this feature is very conventional providing a user with additional memory space as well as maintaining image quality. Furthering having the blocks of equal size evenly displaces the image data, preventing discarding of valuable information.

Regarding claim 6 Chui et al. discloses the digital camera as claimed in claim 4.

Chui et al. **do not disclose** wherein the eliminated part of the compressed image data files is the end portion of each of the individual compressed image data files stored in the memory card.

Hwang **discloses** wherein the eliminated part of the compressed image data files is the end portion of each of the individual compressed image data files stored in the memory card (fig. 3, col. 4, lines 25-37 and lines 57-64).

It would have been obvious to one skilled in the art at the time of the invention to modify Chui et al. wherein a procedure step of eliminating a frequency block (sub band)

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after the wavelet transformation is implemented to allow more storage space availability this feature is very conventional providing a user with additional memory space as well as maintaining image quality furthermore the sub band which is eliminated/discarded is of less quality and contains details that is not sensitive to the average human eye.

Regarding claim 7, Chui et al. discloses the digital camera as claimed in claim 6, wherein the static digital image extracting device is a camera lens (fig. 1, col. 4, lines 3-4).

Regarding claim 8, Chui et al. discloses the digital camera as claimed in claim 7, wherein the image display device is a liquid crystal display (user interface: fig. 2, col. 6, line 16).

Regarding claim 9, Chui et al. discloses the digital camera as claimed in claim 7, wherein the image display device is a computer (150) (fig. 2, col. 6, lines 9-11).

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Matsubara et al. (US. 6101284), Chebil et al. (US. 6760481) and Tsujii (US. 6792153) are cited to show related art with respect to digital image compression using wavelet transform function.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tia A Carter whose telephone number is 703 - 306-5433. The examiner can normally be reached on M-F (7:00-3:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kimberly A Williams can be reached on 703-305-4863. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


TAC
9/17/04

Tia A Carter
Examiner
Art Unit 2626



KIMBERLY WILLIAMS
SUPERVISORY PATENT EXAMINER